

Rec'd PCT/PTO 22 MAR 2005

PCT/AU03/01287



REC'D 17 NOV 2003

WIPO

PCT

Patent Office
Canberra

I, JANENE PEISKER, TEAM LEADER EXAMINATION SUPPORT AND SALES hereby certify that annexed is a true copy of the Provisional specification in connection with Application No. 2002951706 for a patent by PANGAEA PTY LTD as filed on 27 September 2002.



WITNESS my hand this
Seventh day of November 2003

JANENE PEISKER
TEAM LEADER EXAMINATION
SUPPORT AND SALES

**PRIORITY
DOCUMENT**

SUBMITTED OR TRANSMITTED IN
COMPLIANCE WITH RULE 17.1(a) OR (b)

BEST AVAILABLE COPY

AUSTRALIA
Patents Act 1990

PROVISIONAL SPECIFICATION

Applicant(s):

PANGAEA PTY LTD

Invention Title:

A FINANCIAL MANAGEMENT SYSTEM

The invention is described in the following statement:

A FINANCIAL MANAGEMENT SYSTEM

Technical Field

5 This invention relates to financial management systems and particularly those embodied in computer hardware or software.

Background to the Invention

10 Many people do not have a clear understanding of the fundamental principles and concepts which underlie the management of finances and find interpreting numerical accounts reports to be very difficult. To assist with this, some financial management systems provide accounts reports that are expressed with the aid of graphics such
15 as graphs or charts. However, the user is required to operate the system by working exclusively with numerical data in order to produce such a graphical report. Thus, a level of competence and understanding of numerical accounts information is still required to operate systems
20 of these types.

Summary of the Invention

In a first aspect the present invention provides a financial management system including:
25 presentation means for presenting financial information to a user wherein at least some of the financial information is represented by at least one graphic;
manipulation means for manipulating the at least one graphic in response to an action of a user; and
30. modifying means which modifies the financial information based on the manipulation of the at least one graphic.

By use of this system, financial information can be worked upon whilst it is represented in a graphical format because manipulation of the graphic results in a change to
35 the financial information that the graphic represents. The use of graphics makes operation of the system open to those who do not have a clear understanding of financial

information when it is represented wholly numerically and may also improve ease of use even for those who are comfortable with interpreting purely numerical financial information.

5 In this specification the term "graphic" denotes a pictorial representation of information as opposed to representation by a series of numbers or text characters.

10 Preferably, the value of the financial information that the at least one graphic represents is proportional to a dimension of the graphic and the graphic may be manipulated by being resized.

15 Preferably, the value of the financial information that the at least one graphic represents corresponds to the position of the graphic and the graphic may be manipulated by being moved.

 Preferably, the system further includes creation means for creating a graphic and the financial information represented by that graphic.

20 Preferably, the system further includes means for generating icons indicative of positive and negative financial status.

 Preferably, the system further includes means for storing the financial information.

25 Preferably, the system includes means for substituting the at least one graphic by an alternative graphic. This allows a user to select the graphical format that is most easily understood by them or most appropriate for their needs.

30 Preferably, the means for presenting the financial information can represent the financial information wholly numerically. The system can output financial information in a wholly numerical format for use by persons who do have an understanding of wholly numerical reports. Thus, by use of the system a user can receive numerical
35 financial information such as from their accountant, manipulate the information by use of graphics, and then represent the modified information numerically for sending

back to their accountant.

In a second aspect the present invention provides a method of managing financial information including the steps of:

- 5 presenting financial information to a user wherein at least some of the financial information is represented by at least one graphic;
- manipulating of the at least one graphic by the user; and
- modifying the financial information based on the
- 10 manipulation of the at least one graphic.

Preferably, the financial information that the at least one graphic represents is proportional to a dimension of the graphic and the graphic is manipulated by being resized.

- 15 Preferably, the financial information that the at least one graphic represents corresponds to the position of the graphic and the graphic is manipulated by being moved.

- 20 Preferably, the method further includes the step of creating a graphic and the financial information represented by that graphic.

Preferably, the method further includes the step of generating icons indicative of positive and negative financial status.

- 25 Preferably, the system further includes means for storing the financial information.

Preferably, the at least one graphic can be substituted by an alternative graphic.

- 30 Preferably, the system can represent the financial information wholly numerically.

In a third aspect the present invention provides a computer program arranged to instruct a computing system to implement a system according to the first aspect of the invention.

- 35 In a fourth aspect the present invention provides a computer readable medium carrying a computer program . according to the third aspect of the invention.

Brief Description of the Drawings

An embodiment of the present invention will now be described, by way of example only, with reference to the
5 accompanying drawings, in which:

Figure 1 is a schematic representation of a personal computer used to implement a system according to the present invention;

10 Figure 2 is an illustration of financial information presented to a user by an embodiment of a system according to the present invention;

Figure 3 is an illustration of an alternative set of financial information being presented to a user by the system used for figure 2;

15 Figure 4 is an illustration of the financial information being presented in figure 2, but in a wholly numerical format;

Figure 5 is an illustration of an alternative set of financial information presented to a user by the same
20 system used for figure 2; and

Figure 6 is another illustration of still a further set of financial information presented to a user by the same system used for figure 2.

25 Description of the Preferred Embodiment

Referring to Figure 1, a personal computer 20 suitable for implementing systems according to embodiments of the present invention is shown. Computer 20 operates under the instruction of a software program stored on hard
30 disk data storage device 21. Computer 20 further includes a processor 22, memory 23, display screen 24, printer 25 and input devices mouse 26 and keyboard 27. The computer may have communications means such as a network connection
27 to the internet 28 to facilitate transfer and sharing
35 of data.

The system of this embodiment includes storage means in the form of a combination of hard drive 21 and memory

23. The system includes presentation means in the form of a display screen 24 which displays a screen image under the control of a video output of computer 20. The system includes manipulation means embodied in software which
5 communicates with mouse 26 and keyboard 27 to allow a user to manipulate a graphic on display screen 24. The system includes creation means embodied in computer software arranged to create a graphic and the financial information represented by that graphic. The system stores financial
10 information in the storage means and includes modification means embodied in software that modifies the stored financial information based on the manipulation of the graphic. After the financial information has been modified, the display presented to the user is updated by
15 refreshing the image on display screen 24 to reflect the modifications made to the financial information.

The system will be conveniently explained by reference to an illustrative embodiment. Referring to Figure 2, an example of financial information being
20 presented to a user of the system is shown where some of the financial information is represented graphically. In this example, the financial information relates to budgeting the spending of a building grant awarded to an Australian Aboriginal community and the financial
25 information is presented to a user in the form of a financial report.

Level indicator 1 includes an icon which represents the level of the organisation to which the report relates. In this example the level of the organisation is indicated
30 as a single cost centre or budget area by an icon showing a single building.

Report type indicator 2 includes an icon which represents the type of information that is being presented in the report. In this example an expenditure report is
35 indicated by an icon indicating outgoing money.

Organisation graphic 3 indicates the particular organisation to which the report relates. This graphic is

selected by or on behalf of the entity to which the report relates. In this example the graphic is selected by the Aboriginal community and is used in relation to all reports that concern that community.

5 Report period graphic 4 indicates the period to which the report relates. In this example the period is for the Australian financial year and is represented by positions of the sun during the four seasons of the year in a non tropical location.

10 Post report period graphic 5 indicates a time period following the report period. In this example it is the first month of the financial year following the year indicated by report period graphic 4.

15 Full year grant bar graph 6 is scaled so that its height is proportional to the full year building grant that has been allocated to the community. The actual financial amount is represented numerically below the bar graph.

20 Budget lines 18 summarise information relating to budgeted activities within the full year grant 6.

25 Full year budget bar graphs 7 are scaled in height in proportion to the size of the budget which has been allocated to the particular activity such as "Office Work, "Computers" etc. Again, the corresponding financial amount is represented below each bar graph.

30 Year to date budget line 8 indicates at what point in time the year to date budget is being assessed. In this example, the year to date budget line 8 intersects the period graphic 4 at the month indicated by the graphic "Dec". This indicates that the year to date budget is being assessed at the month of December.

35 Year to date actual bar graphs 10 are horizontal bar graphs where the length of the bar indicates the proportion of the full year budget 7 for that item that has actually been spent to date. If the year to date actual bar graph 10 extends to the right of year to date budget line 8 then this indicates that the expenditure to

date exceeds that which was budgeted for. The part of year to date actual bar graph 10 that extends to the right of year to date budget line 8 may be coloured red or any other suitable colour to alert a user to the over budget condition. If the year to date actual expenditure for an activity exceeds the full year budget amount then year to date actual bar graph 10 extends into post period graphic 5. If the year to date actual expenditure for an activity exceeds 13/12ths of the full year budget amount this over budget condition is brought to the attention of a user by the presence of arrow 13. Arrow 13 may be coloured red to highlight the over budget condition.

Year to date actual total bar graph 9 is a horizontal bar graph. The length of bar graph 9 indicates the total expenditure to date as a proportion of the full year grant 6. Total year to date actual bar graph 9 is a summary of year to date actual bar graphs 10.

Variance indicator bar graphs 11 give an indication of the degree of variance between actual expenditure to date and budgeted expenditure to date. The height of the bar graph is proportional to the ratio of the variance to the budgeted amount. If the bar graph extends upwardly from the baseline 19 this indicates that actual spending is below the budgeted amount. If the bar graph extends downwardly from the baseline this indicates that actual spending is above the budgeted amount. Bar graphs extending downwardly may be coloured red or another suitable colour to alert a user to the over budget condition. The actual variance amounts are represented numerically below the respective variance indicator bar graphs.

Some of the information already discussed in the report is shown in an alternative graphical format by tank graphic 14. The total volume of the tank indicated by tank graphic 14 represents the total annual grant 6. The target line 15 represents the year to date budget 8. The liquid remaining 16 in the tank represents the amount of

the total annual grant that currently remains unspent this being the total year to date actual subtracted from the total annual grant 6. The difference in height between the top of the liquid remaining 16 and target line 15 represents the year to date variance. The user can select in what graphical form the financial information is displayed and can substitute an existing graphic for an alternative graphic, each representing the same information. Year to date actual bar graphs 10 could be substituted by tank type graphics.

Emphasis indicators, in this example in the form of icons, are used to draw the users attention to particular points of positive or negative financial status. Negative emphasis indicators 12 draw attention to an over budget condition. Positive emphasis indicators 17 are positioned next to two year to date actual bar graphs 10 together with the text "Spent Once Off". They indicate that once off expenditure items have been recorded in a recurrent budget. Thus, the over expenditure indicated by year to date actual bar graphs 10 is not of particular concern because no further expenditure for these activities will be made during the remainder of the period.

Now that the structure of the report, and the meanings of the various graphical elements has been explained, it will be described, with reference to the illustrated example, how a user may operate the system by the manipulation of graphics.

Creating A Budget Plan

The user, in this example being a member of the council of the Aboriginal community, is reviewing a government grant for the new financial year. They enter the purpose and the amount of the grant into the system and a report of the type shown in Figure 2 is displayed. At this stage, no budget lines 18 are present in the report.

The user creates budget lines 18 by selecting a

command "create budget line". This may be done by selecting from a drop down menu or clicking a toolbar icon as is well known in the art. The system then requires the user to select from a range of titles for the budget line
5 such as "Office Work", "Computers", "Repairs" etc, each having an icon associated with it and representing the title. For instance, the title "Repairs" is indicated by a collection of tradesman's tools. Alternatively, the user may create a new budget line title and select an
10 appropriate icon to represent that budgeted activity. The system then requires the user to allocate a full year budget for this activity. The user does this by dragging up full year bar graph 7 to the desired height. During the dragging operation, the value of the full year budget,
15 corresponding to the height of the bar graph is continuously updated as a numerical financial amount displayed beneath the full year bar graph 7. This can be used as a visual cue to the user when dragging top of full year bar graph 7 to the desired height. Additional budget
20 lines 18 may be created in the same manner.

If the grant is for the same purpose as a grant that has already been entered into the system, such as for the previous financial year, then the report for the previous financial year may be displayed alongside the newly
25 created report. The user may drag budget lines from the existing report to the new report thus obviating the need to select budget line titles and set full year budgets for the budget lines. Reference to the earlier financial report assists a user in providing all the relevant budget
30 lines. It also assists a user in identifying what activities in the previous year went over or under budget. Thus assisting with the allocation of appropriate full year budget amounts.

When allocating budget amounts, the system alerts a
35 user if they attempt to allocate more money than the value of the grant. Similarly, the system will inform the user of how much money remains unallocated. The system alerts

the user if they are not permitted to alter the budget that they are attempting to alter according to privileges associated with their user name.

5 In the case of allocating full year budgets the user may use alternatives to dragging the budget graphs to the desired height. One alternative is illustrated in Figure 3. The full year grant 6 is displayed as a bar divided with fences 40 into paddocks 41. The paddocks represent the full year budgets for particular budget lines. To
10 adjust budgets the user moves the fences 40 to adjust the size of the paddocks 41.

The system stores the financial information in a database in the storage means. The database is structured to store the financial information as a collection of
15 discrete values and relationships. These values may be displayed either in a numerical or graphical format or a combination of these. These different formats own the same properties. The software allows the user flexibility of presentation to build the sorts of forms used as they
20 may require.

The plans created by the operations detailed above may be compared to other plans or compared to actuals. Conversely, the operator may start with actuals which may be compared to plans previously prepared. Also these
25 plans or actuals may be linked to targets, indicators, requirements and performances. The plan may be further revised or modified in a similar manner as circumstances require.

30 **Modifying a Budget Plan**

At any time after creating the budget plan, the full year budget amounts may be adjusted, for instance to reflect a revised estimate of the budget for a particular activity. This is done by clicking on the top of the full
35 year bar graph 7 that is to be modified and resizing it accordingly. Again, a numerical financial amount is displayed below the bar graph to assist a user in

performing the resizing operation. Any operation that changes the stored data or prints the stored data is logged in an audit trail.

5 Associating Spending With Budget Plan

When invoices or accounts payable are received, they are entered into the system. The information from each invoice line is entered into the database and stored as an object associated with an icon. An invoice line is an item in an invoice that may include a brief description of the item and an amount to be paid for that item. The most appropriate icon is selected by the user. Relationship data is also recorded by action of the user that identifies the budget line most closely related to the invoice line.

The icons associated with the invoice lines are displayed to the user. The user then drags the icons representing each invoice line to the budget line which most closely covers the goods or services to which each invoice line relates. If an icon is dropped onto a budget line that is inappropriate according to the predefined relationship data then a warning issues. When an invoice is associated with a budget line, the year to date actual bar graph changes its size to represent the changes that were made. The associated variance indicator bar graph also changes to reflect the change.

Once an invoice has been dropped onto a budget line it can subsequently be moved to another budget line of the same category by dragging and dropping. This principle may be extended to other types of financial document and other types of graphical presentation. The user may subsequently inspect which invoice lines have been dropped onto a budget line by using a software command such as that known as "Magnifying Glass" and clicking on the budget line for which detailed invoice line information is required.

Referring to Figure 4, the financial information that

is being represented by Figure 2 is shown in wholly numerically in a table. At any time a user can instruct the system to represent the financial information stored in the database in such a wholly numerical format. So, 5 after working with the information in a graphical format the user may represent or output the financial information in a wholly numerical format. They may do this for instance to send the information to their accountant or the like who would be comfortable with and may indeed 10 prefer to receive the financial information in a wholly numerical format.

The system is multiuser with all user access and editing rights tailored by association with user privileges. More than one installation of the system can 15 access a common database over a communications link such as the internet. In two different places it can present the same financial information in two different formats simultaneously. In one place it may allow the user to display graphically while in another location at the same 20 time it will allow another user to display numerically.

Whilst the above described embodiments related to planning a budget, other aspects of financial management can be conducted using the system of the present 25 invention. For instance, it could be used to represent a wide range of financial reports including:

1. Grant Accounting and Budget Type Reports
 - Expenditure, Recurrent and Capital
 - Income
 - 30 • Expenditure Running Totals
 - Overviews
 - Overview Maps
 - Income and Expenditure Budget Checks
 - Overall Actuals Checks

2. Business Type Reports Which Include Gross Profit/Net Profit Reports, Costs, Stock Reports, Assets and Liabilities, Depreciation, And Stock And Profitability Over Time

- 5 3. Budgeting Kits
- 4. Coding Charts
- 5. Wages Slips
- 6. Rent Collection

10 Referring to figure 5 an example of a wages slip as represented by an embodiment of a system according to the invention is shown. Money in bar graph 30 represents the gross weekly pay of an employee "John Adams". Money out bar graphs 31 represent deductions from the gross weekly pay for items including "Rent", "Service Charge" etc.

15 Money in Hand bar graph 32 represents the nett pay received by the employee and is calculated by subtracting the deductions from the gross weekly wage. The money in bar graph 30 may be manipulated to reflect the current weekly wage of the employee on a particular week.

20 Similarly, the money out bar graphs 31 may be manipulated by dragging to adjust the height of the bars to reflect changes in regular weekly deductions. The money in hand bar graph 32 automatically adjusts in height to reflect the changes made to either money in bar graph 30 or money

25 out bar graphs 31. The financial information being presented in the wage slip is stored and may be represented to the user in a wholly numerical format if desired.

30 Referring to Figure 6, an example of an income and expenditure budget check report is shown, in this example the report relates to a guest house. Report period graphic 4 indicates that the report relates to the period July 2000 to March 2001. Year to date income budget tank graphic 40 represents the income that was expected to have

35 been received by the date of the report, being March 2001. The value of the expected income is also illustrated,

being \$48,100. The actual income to date is represented by the height of actual income bar graph 52 and by the volume of liquid 41 in tank 40 that has flowed from income pipe 42. The year to date budget for operating costs is

5 represented by the volume of tank 43. The actual year to date spending is represented by the volume of liquid in tank 43 that has flowed through tap 44. Tank 43 is full indicating that the entire budget has been spent.

Variance indicator 11 operates in the same manner as

10 described for figure 2 and indicates that the budget has been exceeded because it extends below baseline 19. This negative financial indicator is reinforced by negative emphasis indicator 12 positioned to the left of tank 43.

Income overflow line 45 indicates that any excess

15 income beyond the year to date budget would flow to safety save and extras out tank 47. Red cross 46 indicates that no excess has flowed through overflow line 45. Safety save and extras out tank 47 is empty and this is highlighted by another negative emphasis indicator 12.

20 Profit overflow line 48 indicates that excess from tank 47 flows to person 51 as profit. Red cross 49 indicates that no profit has flowed. This is highlighted by a further negative emphasis indicator 50.

In this example, the actual income to date can be

25 input into the system by dragging bar graph 52 to the desired height. The year to date budget 40 can be adjusted by clicking with a mouse cursor on an edge of tank 40 and resizing the tank. Similarly, the year to date budget for operating costs can be adjusted by

30 resizing tank 43. In the illustrated example, the guest house is shown to be making a loss at this point in the year.

Systems according to preferred embodiments operate on a personal computer operating under the control of a

35 software program. Conveniently, the software program is written in a programming language in which databases can be written and in which objects can be manipulated such as

Delphi or Interbase.

While the above described systems have been described as operating on a personal computer, it will be appreciated by those in the art that any suitable computing device can be used such as a mobile or other computing device.

Whilst the above described example involved the user manipulating graphics with a computer mouse this can also be achieved by touch screen, voice command or keyboard entry.

Any reference to prior art contained herein is not to be taken as an admission that the information is common general knowledge, unless otherwise indicated.

Finally, it is to be appreciated that various alterations or additions may be made to the parts previously described without departing from the spirit or ambit of the present invention.

THE CLAIMS DEFINING THE INVENTION ARE AS FOLLOWS:

1. A financial management system including:
presentation means for presenting financial
5 information to a user wherein at least some of the
financial information is represented by at least one
graphic;
manipulation means for manipulating the at least one
graphic in response to an action of a user; and
10 modifying means for modifying the financial
information based on the manipulation of the at least
one graphic.
2. A financial management system according to claim 1
wherein the financial information that the at least
15 one graphic represents is proportional to a dimension
of the graphic and the graphic may be manipulated by
being resized.
3. A financial management system according to either
claim 1 or claim 2 wherein the financial information
20 that the at least one graphic represents corresponds
to the position of the graphic and the graphic may be
manipulated by being moved.
4. A financial management system according to any one of
the preceding claim further including creation means
25 for creating a graphic and the financial information
represented by that graphic.
5. A financial management system according to any
preceding claim further including means for
generating icons indicative of positive and negative
30 financial status.
6. A financial management system according to any
preceding claim further including means for storing
the financial information.
7. A financial management system according to any
35 preceding claim further including means for
substituting the at least one graphic with an
alternative graphic.

8. A financial information according to any preceding claim wherein the means for presenting the financial information can represent the financial information wholly numerically.
- 5 9. A method of managing financial information including the steps of:
presenting financial information to a user wherein at least some of the financial information is represented by at least one graphic;
10 manipulating of the at least one graphic by the user; and
modifying the financial based on the manipulation of the graphic.
10. A method according to claim 9 wherein the financial
15 information that the at least one graphic represents is proportional to a dimension of the graphic and the graphic is manipulated by being resized.
11. A method according to either claim 9 or claim 10 wherein the financial information that the at least
20 one graphic represents corresponds to the position of the graphic and the graphic is manipulated by being moved.
12. A method according to any one of claims 9 to 11 further including the step of creating a graphic and
25 the financial information represented by that graphic.
13. A method according to any one of claims 9 to 12 further including the step of generating icons indicative of positive and negative financial status.
- 30 14. A method according to any one of claims 9 to 13 further including the step of storing the financial information.
15. A method according to any one of claims 9 to 14 further including the step of substituting the at
35 least one graphic with an alternative graphic.
16. A method according to any one of claims 9 to 15 further including the step of representing the

financial information wholly numerically.

17. A computer program arranged to instruct a computing system to implement a system according to any one of claims 1 to 8.
- 5 18. A computer readable medium carrying a computer program according to claim 17.

Dated this 18th day of September 2002

PANGAEA PTY LTD

10 By their Patent Attorneys
GRIFFITH HACK

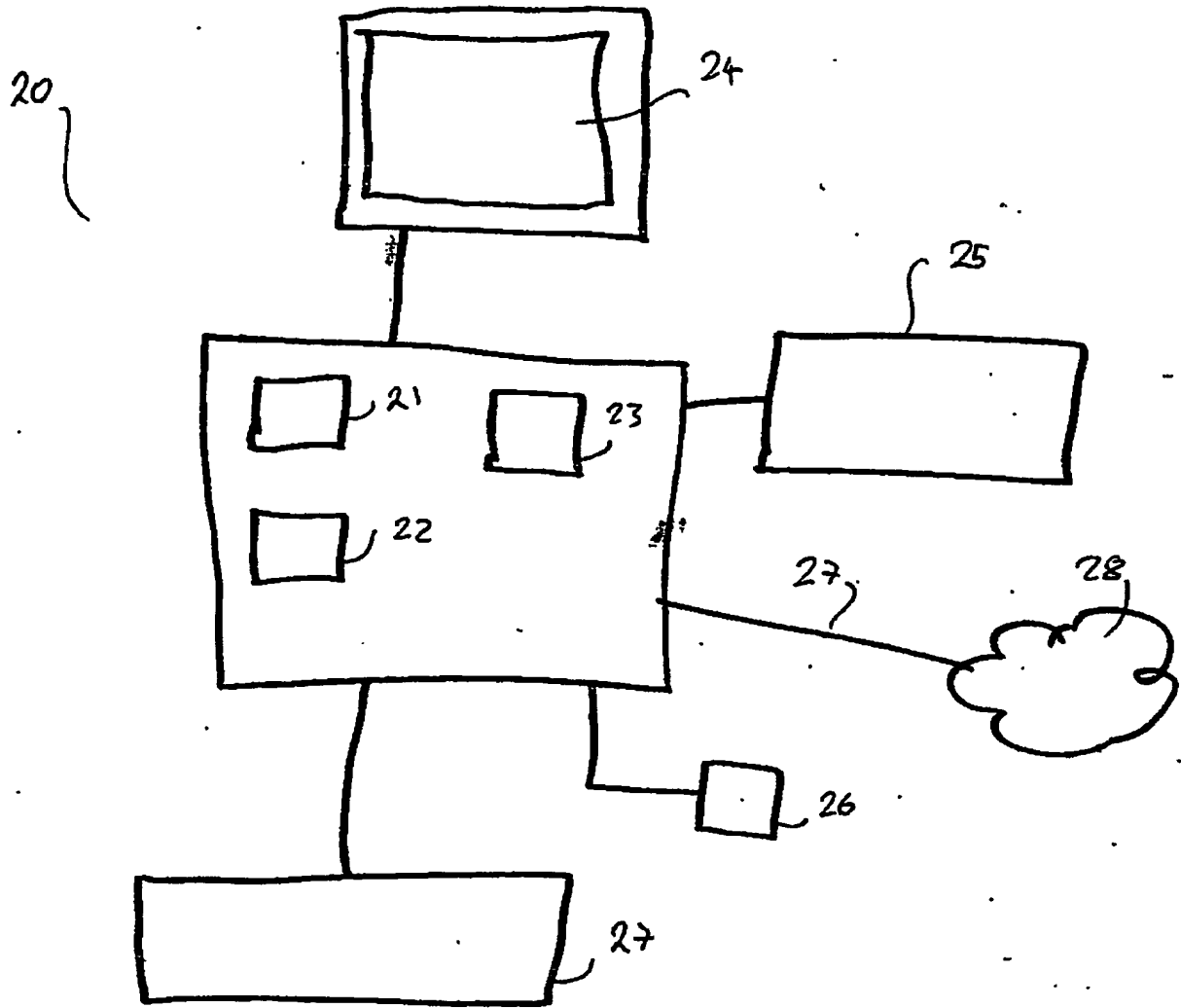


Fig 1

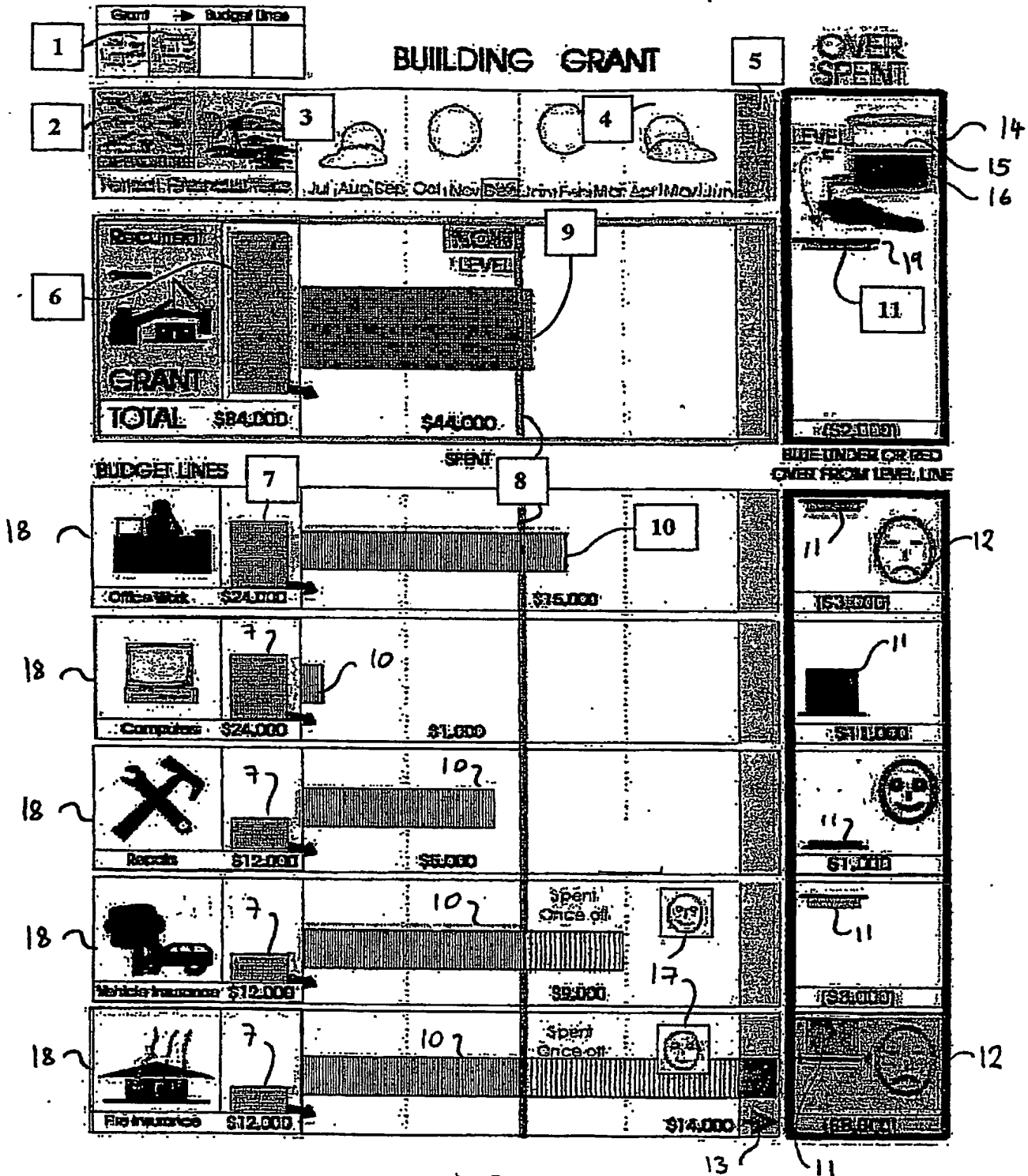


Fig 2

BUDGET PLANNING

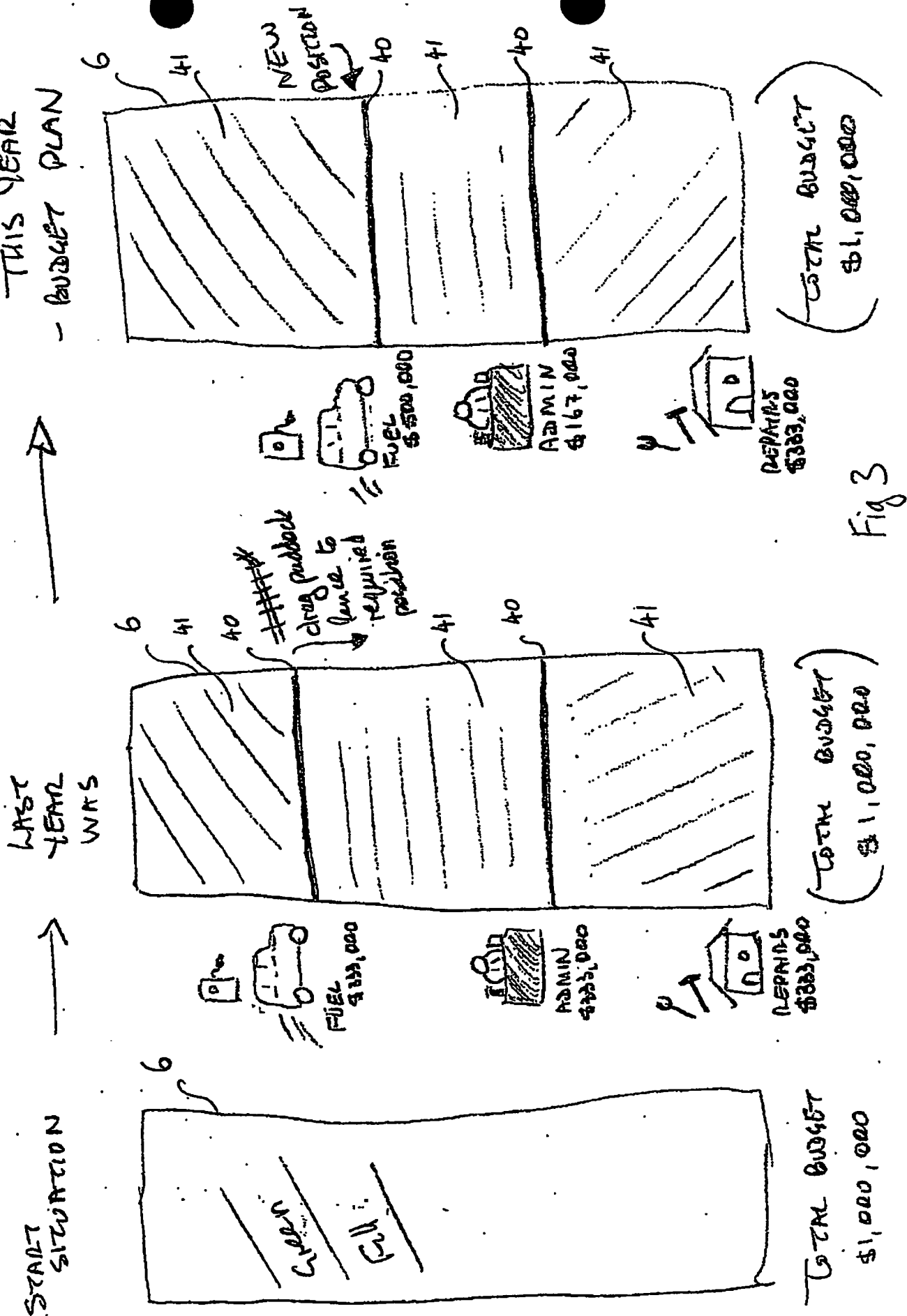


Fig 3

12

BUILDING GRANT					
Period - July to December 2001					
<u>Budget Line</u>	Full Year Budget	Year To Date Budget	Year To Date Actual	Variance - Year To Date	Variance - Annual
Office Work	\$24,000	\$12,000	\$15,000	\$3,000	(\$9,000)
Computer	\$24,000	\$12,000	\$1,000	(\$11,000)	(\$23,000)
Repairs	\$12,000	\$6,000	\$5,000	(\$1,000)	(\$7,000)
Vehicle Insurance	\$12,000	\$6,000	\$9,000	\$3,000	(\$3,000)
Fire Insurance	\$12,000	\$6,000	\$14,000	\$8,000	\$2,000
TOTAL	\$84,000	\$42,000	\$44,000	\$2,000	(\$40,000)

Fig 4

EXAMPLE ORGANIZATION WAGES SLIP

Name: John Adams
Organisation: Example

Position: Store Worker
Date:

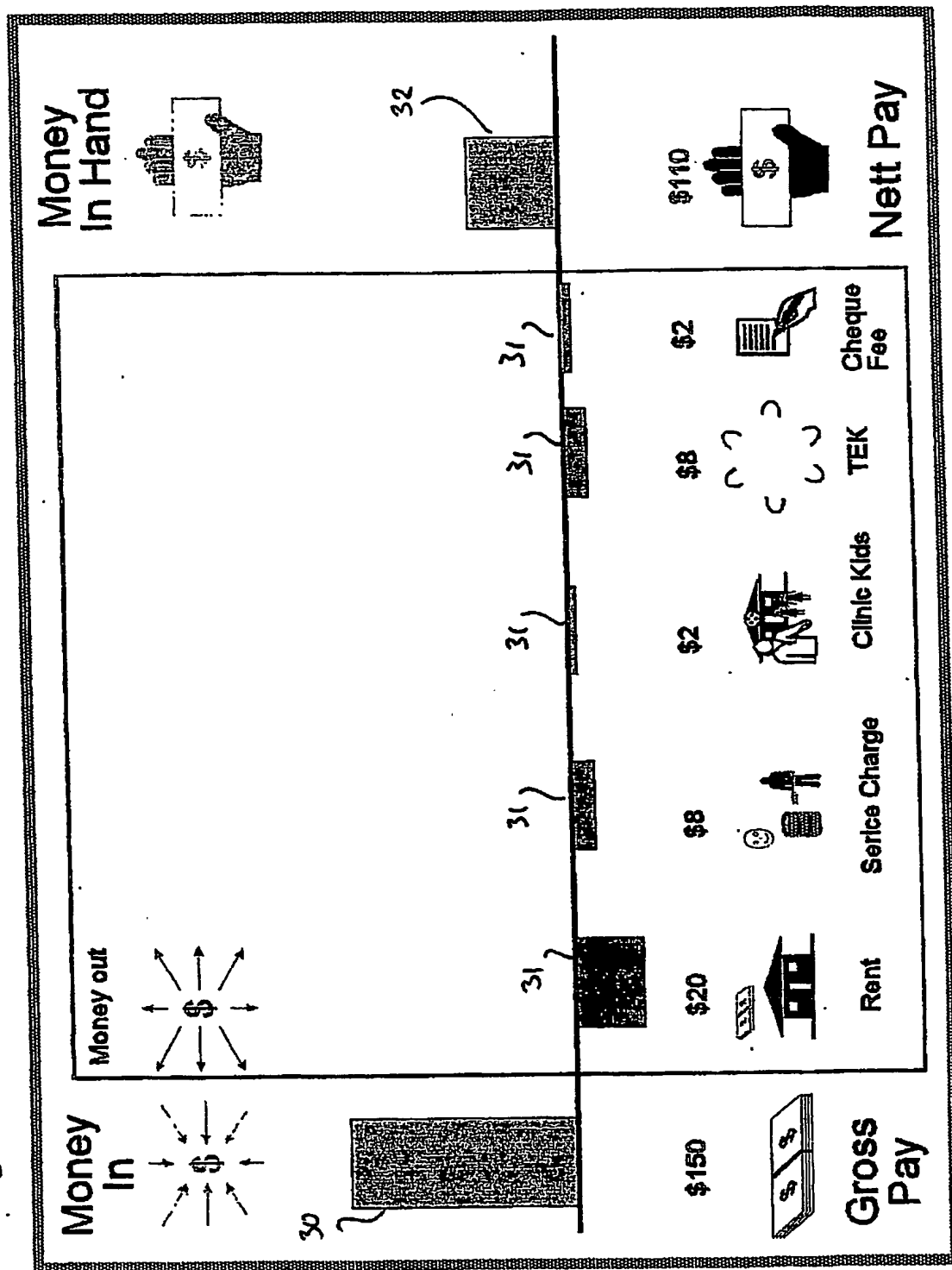
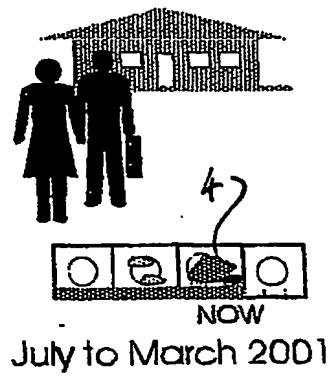


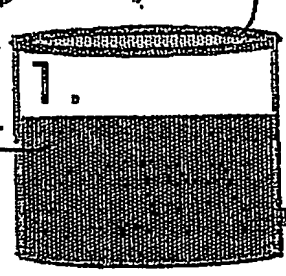
Fig 5

STAGE

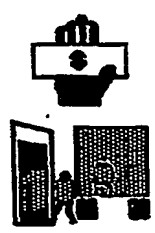
Guest House SMALL BUSINESS \$TORY THE BIG PICTURE



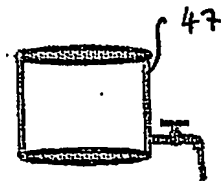
MONEY INCOME
FROM SALES
\$42,311



Income
Budget
\$48,100



Operating
COSTS
\$ 55,118



SAFETY SAVE &
EXTRAS OUT
\$ 0 ??

1.
LOSS
-\$12,807

2. NO MONEY
AVAILABLE- LOSS

\$ LOSS



Fig 6.

**This Page is Inserted by IFW Indexing and Scanning
Operations and is not part of the Official Record**

BEST AVAILABLE IMAGES

Defective images within this document are accurate representations of the original documents submitted by the applicant.

Defects in the images include but are not limited to the items checked:

- ☐ **BLACK BORDERS**
- ☐ **IMAGE CUT OFF AT TOP, BOTTOM OR SIDES**
- ☒ **FADED TEXT OR DRAWING**
- ☐ **BLURRED OR ILLEGIBLE TEXT OR DRAWING**
- ☐ **SKEWED/SLANTED IMAGES**
- ☐ **COLOR OR BLACK AND WHITE PHOTOGRAPHS**
- ☐ **GRAY SCALE DOCUMENTS**
- ☐ **LINES OR MARKS ON ORIGINAL DOCUMENT**
- ☐ **REFERENCE(S) OR EXHIBIT(S) SUBMITTED ARE POOR QUALITY**
- ☐ **OTHER:** _____

IMAGES ARE BEST AVAILABLE COPY.

As rescanning these documents will not correct the image problems checked, please do not report these problems to the IFW Image Problem Mailbox.